

The Mediating Roles of Environmental Knowledge and Organizational Identity in the Relationship between Green HRM and Leadership and Employee Green Behavior

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Abstract:- This research explores how green human resource management (GHRM) and strong leadership can encourage employees in Greater Jakarta, Indonesia, to adopt more environmentally friendly behaviors. It emphasizes the crucial role of raising environmental awareness and nurturing a green corporate identity as key strategies. The findings reveal that when companies focus on these areas, they see significant positive changes in how their employees act towards the environment. Moreover, the study shines a light on the critical role of leadership in this process. It shows that leaders who champion sustainability directly impact and inspire their teams meaningfully. The insights offered here are invaluable for managers looking to steer their organizations toward more sustainable practices and build a culture that genuinely values the planet.

Keywords: Employee Green Behavior, Environmental Knowledge, Green HRM, Green Leadership, Organizational Identity.

1. Introduction

The 2022 Environmental Performance Index (EPI) ranks Indonesia at 164th out of 180 countries, highlighting urgent concerns about the nation's commitment to environmental sustainability. This placement suggests a broader trend where countries at the lower end of the scale prioritize economic growth over ecological considerations. This stance manifests in a general societal indifference toward environmental issues. Particularly in Indonesia, the industrial sector emerges as a significant source of environmental pollutants, exacerbating ecological challenges. Jakarta, the capital, faces severe air pollution mainly due to industrial emissions, emphasizing the need for immediate environmental action. This situation underscores the importance of Indonesian businesses embedding environmental responsibility into their core operations. Both green human resource management (HRM) and green leadership are identified as vital elements in driving this change. With its suite of practices like environmental training and incorporating sustainability measures into performance evaluations, Green HRM aims to influence employee behavior towards more significant environmental considerations.

Similarly, green leadership involves leaders who embed environmental sustainability into their strategic decisions and inspire their teams toward eco-friendly practices. It is crucial for fostering an organizational culture of environmental responsibility. The study explores the interplay between green HRM, green leadership, and pro-environmental employee behavior in Indonesia's industrial sector, seeking to understand how these elements collectively foster a conducive environment for sustainable practices. It mainly focuses on the role of enhanced environmental knowledge and developing a collective green organizational identity as critical factors. The research aims to contribute to the conversation on sustainable business practices, examining the potential of HRM strategies and leadership styles to lead environmental stewardship efforts within the workplace. By examining Indonesia's environmental challenges and the organizational practices that can address them, this study highlights the impactful role of HRM and leadership in promoting significant environmental change. A comprehensive

analysis offers valuable insights into the ongoing discussion on achieving sustainable development in Indonesia and other regions facing similar ecological issues.

2. Literature Review

A. Employee Green Behavior

Employee green behavior (EGB) can be defined as the actions and behaviors exhibited by employees that contribute to environmental sustainability. These actions aim to preserve natural resources, reduce environmental degradation, and improve overall environmental quality [1]. [2] define employee green behavior as "measurable actions and behaviors undertaken by employees that are related to and contribute to or reduce environmental sustainability."

Several factors drive the growing interest in employee green behavior. First, there is a rising global consciousness regarding environmental issues. Customers and job seekers are increasingly drawn to organizations committed to sustainability [3]. Secondly, organizations are recognizing that encouraging sustainable practices among employees can enhance their reputation and competitive advantage. This has led to initiatives promoting workplace environmental consciousness [4]. Finally, leaders and entrepreneurs are adopting "green" practices for various reasons, including ethical considerations, compliance with regulations, and pursuing a competitive edge [5].

B. Green Human Resource Management

Green HRM (GHRM), a relatively new field within HRM, has gained significant attention due to growing environmental concerns. It involves integrating environmental considerations into all HRM practices, from recruitment and selection to performance evaluation and training.

Studies have shown that GHRM initiatives can positively influence employee attitudes and behaviors toward environmental sustainability [7]. For instance, green training programs can enhance employees' environmental knowledge and skills, leading to greater environmental engagement [8].

Hypothesis-1: Green HRM positively influences employee green behavior

C. Green Leadership

Green leadership (GL) has emerged as a critical factor in fostering a sustainable organizational culture. This leadership style involves actively engaging with employees to achieve organizational goals related to environmental protection and sustainability [9]. Green leaders can influence individuals and organizations to establish pro-environmental policies and realize long-term sustainability visions [10]. Beyond policy implementation, green leadership encompasses decision-making that prioritizes environmental considerations [11].

Green leadership can be defined as a leader's capacity to select environmentally friendly policies and persuade the organization to adopt them. This leadership style is essential for encouraging employee participation in environmentally sustainable business initiatives, aligning with the principle of balancing environmental and economic concerns. Green leaders who demonstrate a genuine concern for the environment can effectively influence individuals and organizations to achieve long-term ecological sustainability goals.

Employees are more likely to allocate more resources to environmentally friendly outcomes when they receive more significant support from their leaders found that environmentally friendly, inclusive leadership strategies can significantly impact employee green behavior [12][13].

Hypothesis-2: Green leadership has a significant influence on employee green behavior

D. The Mediating Role of Environmental Knowledge

Environmental knowledge (EK) refers to employees' understanding of environmental issues, their awareness of the organization's environmental policies and practices, and their knowledge of how their actions can contribute to environmental sustainability.

Previous research has explored the mediating role of environmental knowledge between green human resource management (GHRM) practices and employee green behavior. Some studies [14] suggest that enhancing environmental knowledge can strengthen GHRM's impact on employee green behavior. In other words, when employees better understand environmental issues, they are more likely to be motivated to engage in environmentally friendly actions.

However, other studies have yielded mixed results. [15] and [16] did not find significant evidence for the mediating role of environmental knowledge in the relationship between GHRM and employee green behavior. [17] also reported a need for a direct relationship between environmental knowledge and pro-environmental attitudes among employees.

These discrepancies in findings may be attributed to various factors, such as differences in organizational contexts, uncontrolled moderating variables, or variations in variable measurement. Therefore, the mediating role of environmental knowledge remains an intriguing area for further research.

Based on the literature review, we propose the following hypotheses:

Hypothesis-3: Environmental knowledge mediates the relationship between green HRM and employee green behavior.

Hypothesis-4: Environmental knowledge mediates the relationship between green leadership and employee green behavior

E. The Mediating Role of Green Organization Identity (GOI)

Green organizational identity (GOI) refers to employees perceiving the organization as environmentally responsible and committed to sustainability. It is shaped by the organization's environmental policies, practices, and communication efforts.

[18] discovered that employees' identification with their organization can be strengthened by enhancing their perceptions of its corporate social responsibility activities. This, in turn, predicts organizational identification and stimulates pro-environmental behavior. Similarly, [19] found that when organizations strategically adopt green HRM policies, it is likely to increase employees' organizational identity and the adoption of pro-environmental behaviors. Furthermore, research conducted by [8] and Quan [13] found that ethical and inclusive green leadership can enhance employee green behavior by fostering a sense of identification with the organization's environmental values. The words and actions of leaders contribute to employees' identification with the organization.

Based on the literature, the following hypotheses can be proposed:

H5: Green organizational identity mediates the relationship between green HRM and employee green behavior.

H6: Green organizational identity mediates the relationship between green leadership and employee green behavior.

3. Research Methodology

This study employs a quantitative research design using a cross-sectional survey. The research is associative, aiming to examine the relationships between variables. The unit of analysis is individual employees working in the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, and Bekasi).

Data was collected through a questionnaire distributed to employees in various industries in the Greater Jakarta. A Likert scale was used to measure responses, ranging from strongly agree (5) to strongly disagree (1). Due to the unknown population of employees in the Greater Jakarta, a non-probability sampling technique, specifically purposive sampling, was employed. The inclusion criteria for participants were employees working in companies or industries in the Greater Jakarta. The sample size was determined using Hair's formula, resulting in a minimum sample of 42 respondents. Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.0.

4. Findings & Discussion

Data collection spanned three weeks, utilizing a questionnaire distributed via Google Forms. A total of 203 valid samples were collected from respondents working in Greater Jakarta. Most respondents (99.5%) were over 40 years old, male, held bachelor's degrees, worked in engineering divisions, had 1-5 years of work experience, and held managerial positions.

The research instruments underwent rigorous testing to ensure the validity and reliability of the collected data. The results of these tests demonstrated that the measures used in the study were both valid and reliable, indicating that the data accurately captured the intended constructs.

To examine the structural relationships between latent variables, hypothesis testing was conducted by comparing p-values with alpha (0.05) and t-statistics (>1.96). These values were obtained from SmartPLS output using bootstrapping.

Table 1. Direct Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
GHRM → EGB	0.035	0.036	0.069	0.510	0.610
GL → EGB	0.175	0.177	0.065	2.684	0.007

As shown in Table 1, the analysis revealed that the relationship between GHRM and EGB was not statistically significant. The coefficient value was 0.035, with a t-statistic of 0.510 and a p-value of 0.610. In contrast, the relationship between GL and EGB was statistically significant. The coefficient value was 0.175, with a t-statistic of 2.684 and a p-value of 0.007.

Table 2. Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
GHRM → EK → EGB	0.182	0.186	0.054	3.354	0.001
GL → EK → EGB	0.129	0.127	0.057	2.269	0.023
GHRM → GOI → EGB	0.172	0.171	0.041	4.168	0.000
GL → GOI → EGB	0.106	0.105	0.035	3.012	0.003

The study analyzed indirect effects to evaluate the variables' mediating influence, as shown in Table 2. The results revealed that environmental knowledge (EK) partially mediates the relationship between green human resource management (GHRM) and employee green behavior (EGB). Additionally, EK fully mediates the relationship between green leadership (GL) and EGB. Moreover, green organizational identity (GOI) fully mediates the relationship between GHRM and EGB.

The findings of this study provide valuable insights into the factors influencing employee green behavior. While green leadership directly and significantly impacts employee green behavior, green HRM's influence is primarily indirect, operating through its effects on environmental knowledge and green organizational identity.

Environmental knowledge is crucial in mediating the relationship between green HRM and green leadership with employee green behavior. Employees with a deeper understanding of environmental issues are likelier to engage in environmentally friendly practices. This suggests that organizations should invest in training and education programs to enhance employees' environmental knowledge.

Green organizational identity also serves as a powerful mediator, particularly in the relationship between green HRM and employee green behavior. Employees who perceive their organization as environmentally responsible and committed to sustainability are more likely to identify with the organization and adopt green behaviors. Organizations can foster a solid green organizational identity by clearly communicating their environmental goals and values, implementing sustainable practices, and recognizing and rewarding employee green behavior.

5. Implications

A. Theoretical Implication

This study contributes to the existing literature on green HRM, green leadership, and employee green behavior by providing empirical evidence for the mediating roles of environmental knowledge and green organizational identity. The findings support the theoretical framework proposed in the study and extend our understanding of the factors influencing employee green behavior.

B. Managerial Implication

Organizations seeking to foster a more sustainable workplace culture and enhance their environmental performance should prioritize the following strategies: (i) Cultivate a leadership style that emphasizes environmental sustainability and actively engages employees in green initiatives. Green leaders can create a supportive environment that encourages and motivates employees to adopt environmentally friendly behaviors; (ii) Implement effective green HRM practices, such as green recruitment, training, and performance management. These practices can indirectly influence employee green behavior by enhancing environmental knowledge and fostering a green organizational identity; (iii) Invest in training and education programs to improve employees' understanding of environmental issues. This can be achieved through workshops, seminars, and online resources. A well-informed workforce is more likely to engage in environmentally friendly practices; and (iv) Foster a strong green organizational identity by clearly communicating the organization's environmental goals and values, implementing sustainable practices, and recognizing and rewarding employee green behavior. A strong, green organizational identity can inspire employees to align their actions with sustainability objectives.

6. Conclusion

This study investigated the relationship between green human resource management (GHRM), green leadership, environmental knowledge, and green organizational identity on employee green behavior. The findings suggest that green leadership and HRM play significant roles in fostering employee green behavior. However, the mechanisms through which they influence employee green behavior differ.

Green leadership directly influences employee green behavior. It creates a supportive environment that encourages and motivates employees to engage in environmentally friendly practices. Additionally, green leadership can foster a sense of organizational identity aligned with environmental sustainability.

Green HRM, on the other hand, primarily influences employee green behavior indirectly through its impact on environmental knowledge and green organizational identity. Green HRM can enhance employees' understanding and motivation to engage in green behaviors by providing training and education on environmental issues. Moreover, green HRM practices can contribute to developing a green organizational identity, further influencing employee green behavior.

The study also highlights the mediating role of environmental knowledge and green organizational identity. These factors can amplify the impact of green HRM and leadership on employee green behavior.

While this study provides valuable insights, it is essential to acknowledge its limitations. The cross-sectional design limits the ability to establish causality. Future research could employ longitudinal studies to examine the long-term effects of green HRM and leadership on employee green behavior. Exploring the moderating effects of individual and organizational factors can provide further insights into these relationships.

Furthermore, future research could investigate the generalizability of these findings to different organizational contexts and industries. Additionally, examining the impact of specific green HRM practices and green leadership behaviors on employee green behavior can provide more nuanced insights.

In conclusion, this study contributes to the growing literature on green HRM and leadership. The findings emphasize the importance of both factors in fostering employee green behavior and promoting organizational sustainability. Future research can further explore the complexities of these relationships and inform the development of effective strategies for promoting environmental sustainability in the workplace.

References

- [1] Norton, T. A., Parker, S. L., Zacher, H., & Ashkanasy, N. M. (2015). Employee green behavior: A theoretical framework, multilevel review, and future research agenda. *Organization & Environment*, 28(1), 103-125.
- [2] Ones, D. S., & Dilchert, S. (2013). Measuring, understanding, and influencing employee green behaviors. In *Green organizations* (pp. 115-148). Routledge.
- [3] Pham, D. D. T., & Paillé, P. (2020). Green recruitment and selection: an insight into green patterns. *International journal of manpower*, 41(3), 258-272.
- [4] Unsworth, K. L., Davis, M. C., Russell, S. V., & Bretter, C. (2021). Employee green behaviour: How organizations can help the environment. *Current Opinion in Psychology*, 42, 1-6.
- [5] Demirel, P., Li, Q. C., Rentocchini, F., & Tamvada, J. P. (2019). Born to be green: new insights into the economics and management of green entrepreneurship. *Small Business Economics*, 52, 759-771.
- [6] Chen, S., Jiang, W., Li, X., & Gao, H. (2021). Effect of Employees' Perceived Green HRM on
- [7] Their Workplace Green Behaviors in Oil and Mining Industries: Based on Cognitive-Affective System Theory. *International Journal of Environmental Research and Public Health*, 18(8), 4056. <https://doi.org/10.3390/ijerph18084056>
- [8] Liu, Z., Mei, S., & Guo, Y. (2020). Green human resource management, green organization identity and organizational citizenship behavior for the environment: the moderating effect of environmental values. *Chinese Management Studies*, 15(2), 290-304.
- [9] Bhutto, T. A., Farooq, R., Talwar, S., Awan, U., & Dhir, A. (2021). Green inclusive leadership and green creativity in the tourism and hospitality sector: serial mediation of green psychological climate and work engagement. *Journal of Sustainable Tourism*, 29(10), 1-22. <https://doi.org/10.1080/09669582.2020.1867864>
- [10] Ahmed, F., Callaghan, D., & Arslan, A. (2024). A multilevel conceptual framework on green practices: Transforming policies into actionable leadership and employee behavior. *Scandinavian Journal of Psychology*, 65(3), 381-393.
- [11] Arici, H. E., & Uysal, M. (2022). Leadership, green innovation, and green creativity: A systematic review. *The Service Industries Journal*, 42(5-6), 280-320.
- [12] Khan, R. U., Saqib, A., Abbasi, M. A., Mikhaylov, A., & Pinter, G. (2023). Green Leadership, environmental knowledge Sharing, and sustainable performance in manufacturing Industry: Application from upper echelon theory. *Sustainable Energy Technologies and Assessments*, 60, 103540.
- [13] Quan, D., Tian, L., & Qiu, W. (2022). The Study on the Influence of Green Inclusive Leadership on Employee Green Behaviour. *Journal of Environmental and Public Health*, 2022, 1-12. <https://doi.org/10.1155/2022/5292184>
- [14] Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's pro-environmental behavior through green human resource management practices. *Corporate Social Responsibility and Environmental Management*, 26(2), 424-438. <https://doi.org/10.1002/csr.1694>
- [15] Bhattarai, U., Agnieszka Łopatka, Niranjana Devkota, Udaya Raj Paudel, & Péter Németh. (2023). Influence of green human resource management on employees' behavior through mediation of environmental knowledge of managers. *Journal of International Studies*, 16(3), 56-77. <https://doi.org/10.14254/2071-8330.2023/16-3/3>
- [16] Tirno, R. R., Islam, N., & Happy, K. (2023). Green HRM and ecofriendly behavior of employees: Relevance of proecological climate and environmental knowledge. *Heliyon*, 9(4), e14632. <https://doi.org/10.1016/j.heliyon.2023.e14632>
- [17] Bashirun, S. N., & Noranee, S. (2020). Influence of Environmental Knowledge and Attitude on Employee Green Behaviour. *International Journal of Academic Research in Business and Social Sciences*, 10(6). <https://doi.org/10.6007/ijarbss/v10-i6/7463>

- [18] Shah, S. H. A., Cheema, S., Al-Ghazali, B. M., Ali, M., & Rafiq, N. (2021). Perceived corporate social responsibility and pro-environmental behaviors: The role of organizational identification and coworker pro-environmental advocacy. *Corporate Social Responsibility and Environmental Management*, 28(1), 366-377.
- [19] Ribeiro, N., Gomes, D. R., Ortega, E., Gomes, G. P., & Semedo, A. S. (2022). The Impact of Green HRM on Employees' Eco-Friendly Behavior: The Mediator Role of Organizational Identification. *Sustainability*, 14(5), 2897. <https://doi.org/10.3390/su14052897>